

इंटरनेट

मानक

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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 532 (2006): Bicycle Tube Valves and Valve-tubing [TED
16: Bicycles]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
साइकिल ट्यूब के वाल्व व वाल्व की ट्यूबें — विशिष्टि
(तीसरा पुनरीक्षण)

Indian Standard
**BICYCLE TUBE VALVES AND VALVE-TUBING —
SPECIFICATION**
(*Third Revision*)

ICS 43.150

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Bicycles Sectional Committee had been approved by the Transport Engineering Division Council.

This standard was first published in 1954 and then subsequently revised in 1964 and 1979. This revision is being taken up to include the additional types of tube valves with additional tests and amalgamation with IS 5079 : 1969 'Specification for rubber valve-tubing for cycle tube valves'.

The composition of the Committee responsible for the formulation of this standard is given in Annex C.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

BICYCLE TUBE VALVES AND VALVE-TUBING — SPECIFICATION

(Third Revision)

1 SCOPE

This standard covers the dimensions and material requirements for following different types of bicycle tube valves and rubber valve-tubing for tube valves.

1.1 Types of Bicycle Tube Valve

- a) Metal base valve with plug for cycle tubes (Dunlop valve for jointed tube),
- b) Metal base valve with core for cycle tubes,
- c) Rubber base valve with plug for cycle tubes (Dunlop valve for moulded tube),
- d) Rubber base valve with core for cycle tubes (American valve for moulded tube — full thread),
- e) Rubber covered valve with core for cycle tubes (American valve for moulded tube — half thread),
- f) French valve for jointed tube,
- g) French valve for moulded tube,
- h) German valve for moulded tube, and
- j) German valve for jointed tube.

1.2 Rubber Valve Tubing for Bicycle Tube Valves

2 REFERENCES

The following standards contain provisions, which, through reference in this text, constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	Title
196 : 1966	Atmospheric conditions for testing (revised)
1068 : 1993	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium (third revision)
1572 : 1986	Electroplated coatings of cadmium on iron and steel (second revision)

IS No.

Title

1573 : 1986	Electroplated coatings of zinc on iron and steel (second revision)
3400 (Part 4) : 1987	Methods of test for vulcanized rubbers: Part 4 Accelerated ageing (second revision)

3 REQUIREMENTS FOR TUBE VALVE

3.1 Material

Bicycle tube valve components shall be manufactured from materials which shall not corrode when exposed to the elements and shall be strong enough to withstand the rigorous of manufacture and service.

3.1.1 The dust cap shall be made of plastic or hard rubber.

3.2 Dimensions

The valve and its components parts shall be manufactured according to the dimensions given in Fig. 1 to 9.

3.2.1 The components shall be so manufactured as to ensure interchangeability. The heads of the plug retaining nut, rim nut and cap shall be knurled so as to give easy grip when handled. All burrs shall be removed.

3.3 Designation

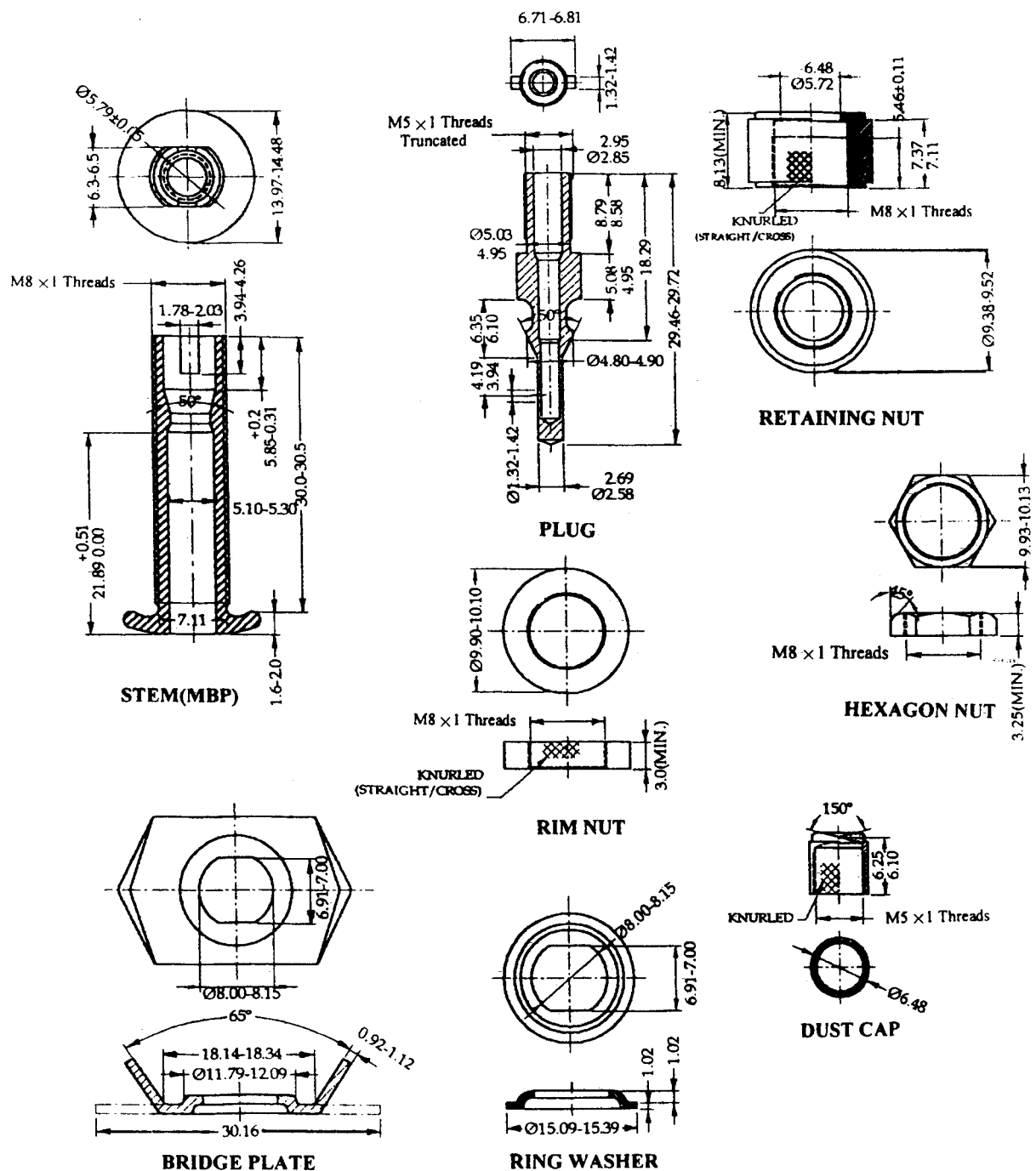
Four types of metal base valve, four types of rubber base valve and one type of rubber covered valve covered in the specification shall be designated as:

- | | |
|-----------------------------------|-------------------------|
| a) Metal base valve with plug | : MBP,
MBFP,
MBGP |
| b) Metal base valve with core | : MBC |
| c) Rubber base valve with plug | : RBP,
RBFP,
RBGP |
| d) Rubber base valve with core | : RBC |
| e) Rubber covered valve with core | : RCC |

Example:

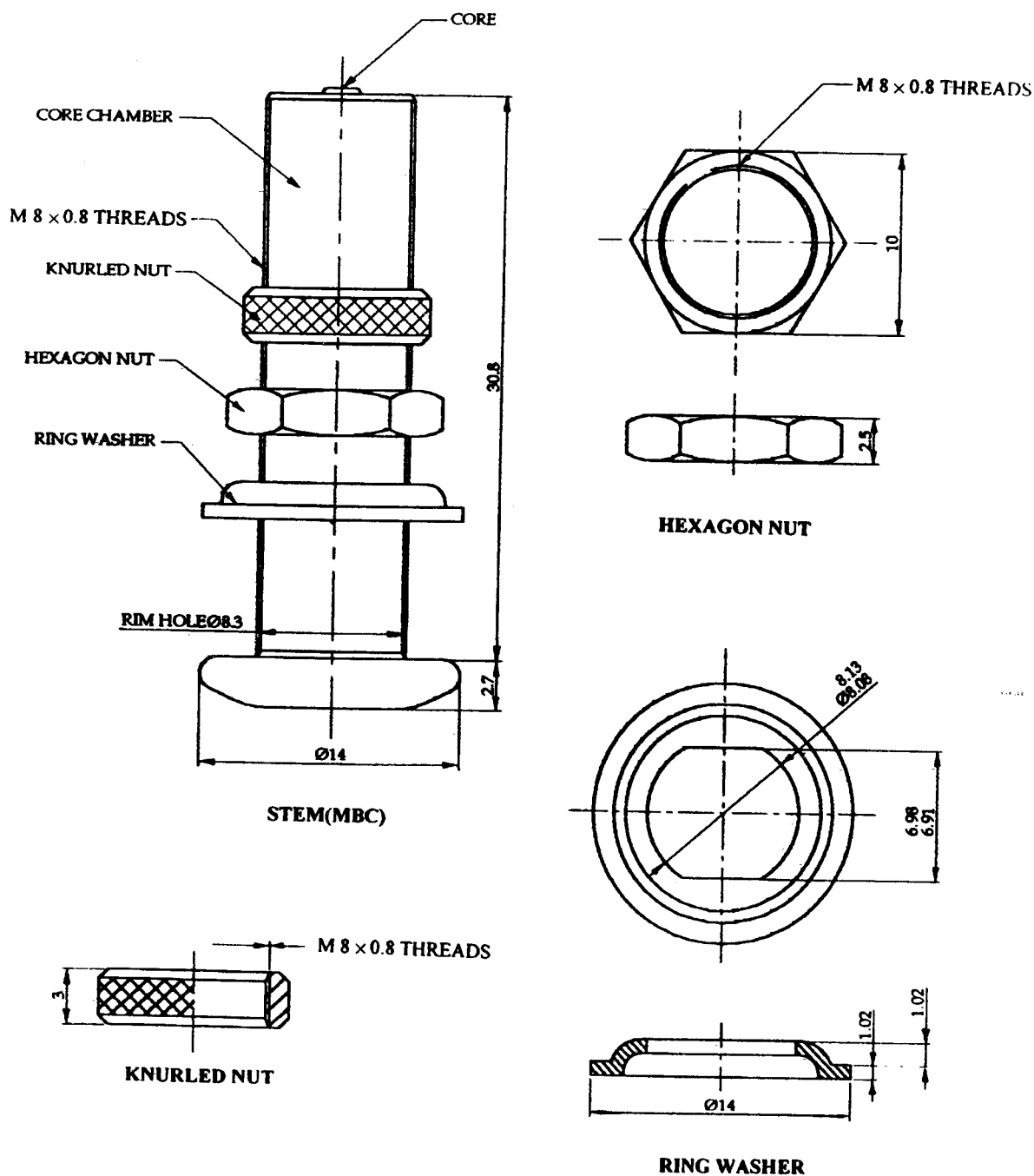
A rubber base valve with core conforming to this standard shall be designated as:

Bicycle Tube Valve RBC IS 532



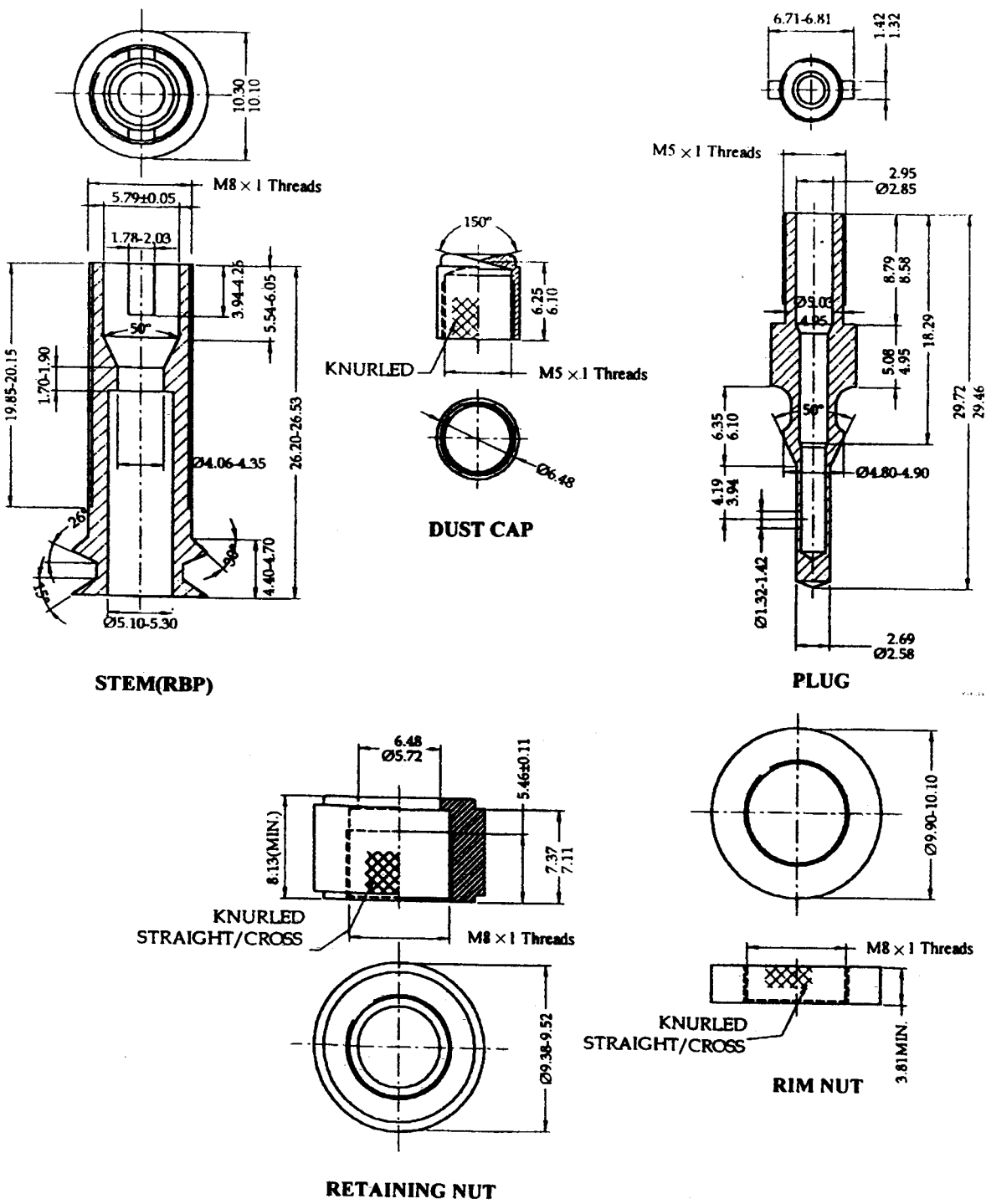
NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 1 METAL BASE VALVE WITH PLUG (MBP) (DUNLOP VALVE) FOR CYCLE TUBE



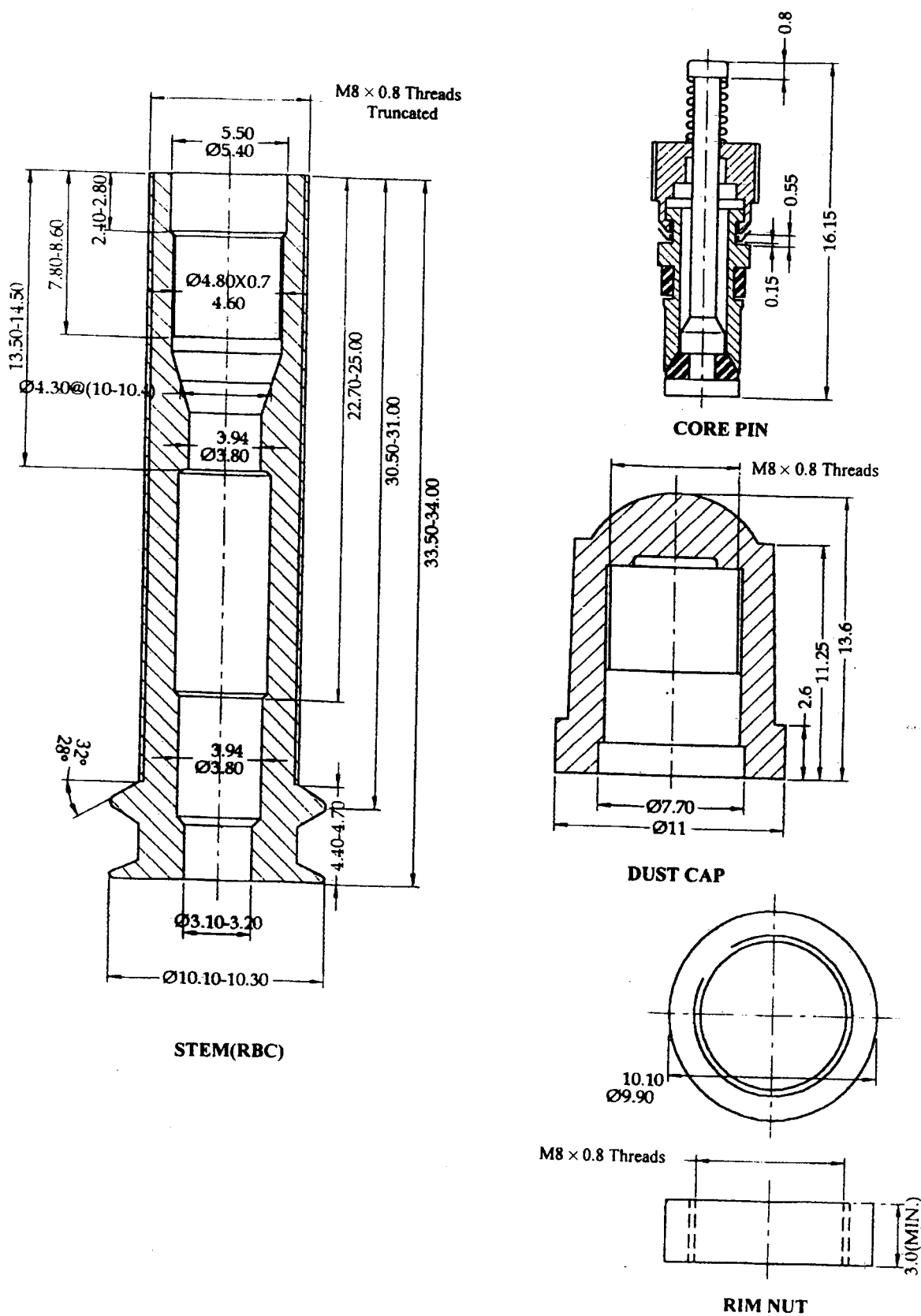
NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 2 METAL BASE VALVE, TYPE MBC



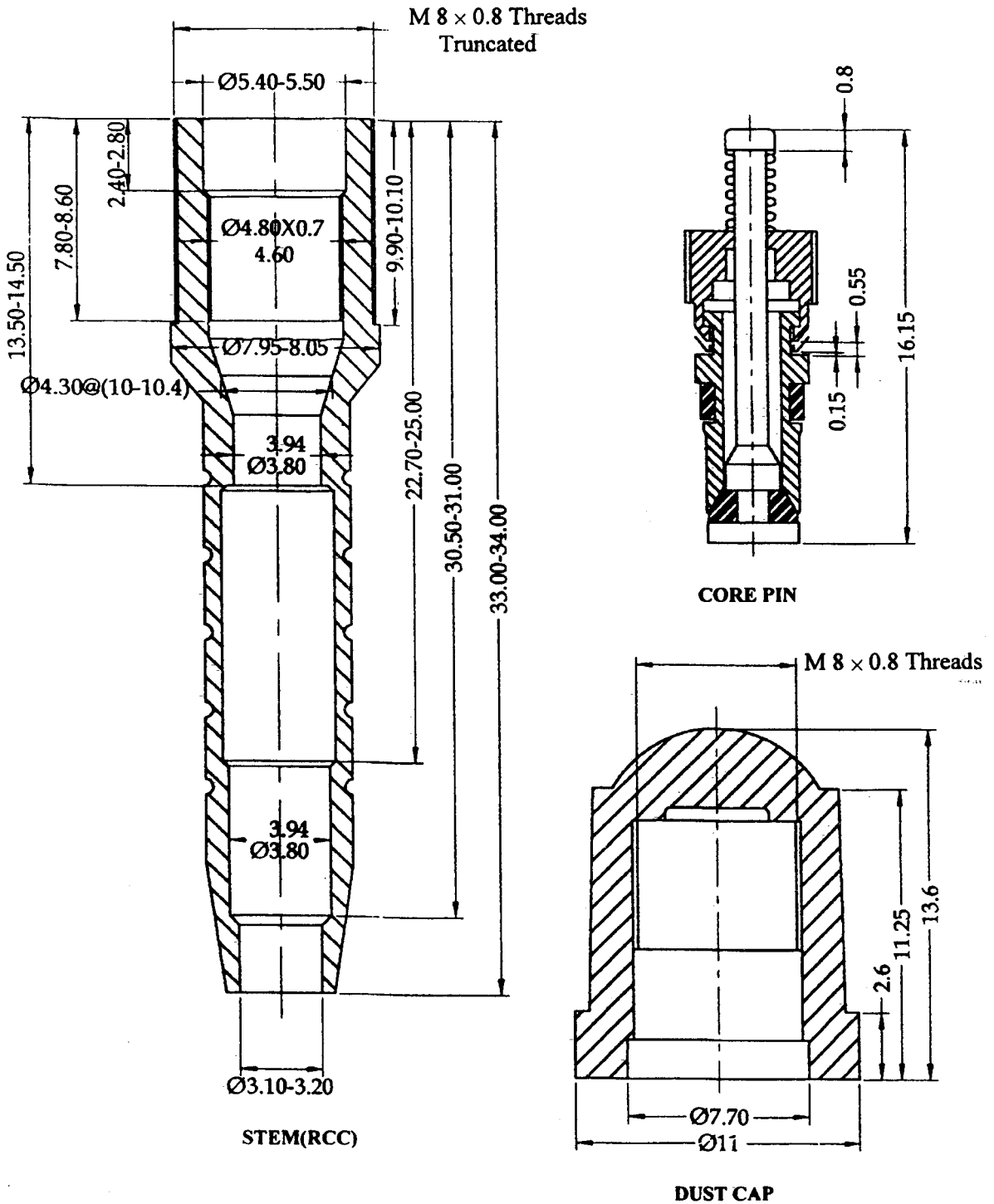
NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 3 RUBBER BASE VALVE WITH PLUG (RBP) (DUNLOP VALVE) FOR CYCLE TUBE



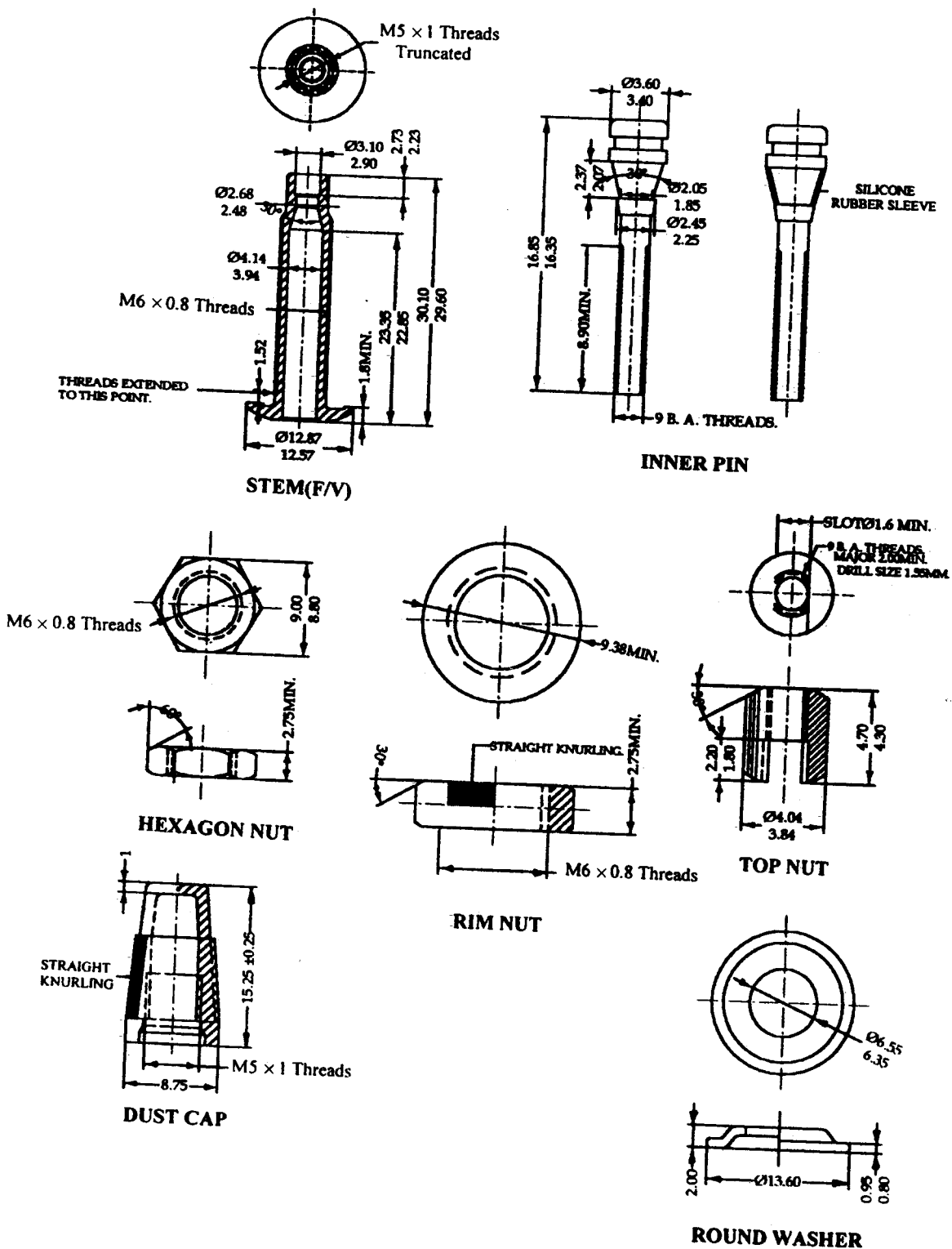
NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 4 RUBBER BASE VALVE WITH CORE (RBC) AMERICAN VALVE (FULL THREAD)



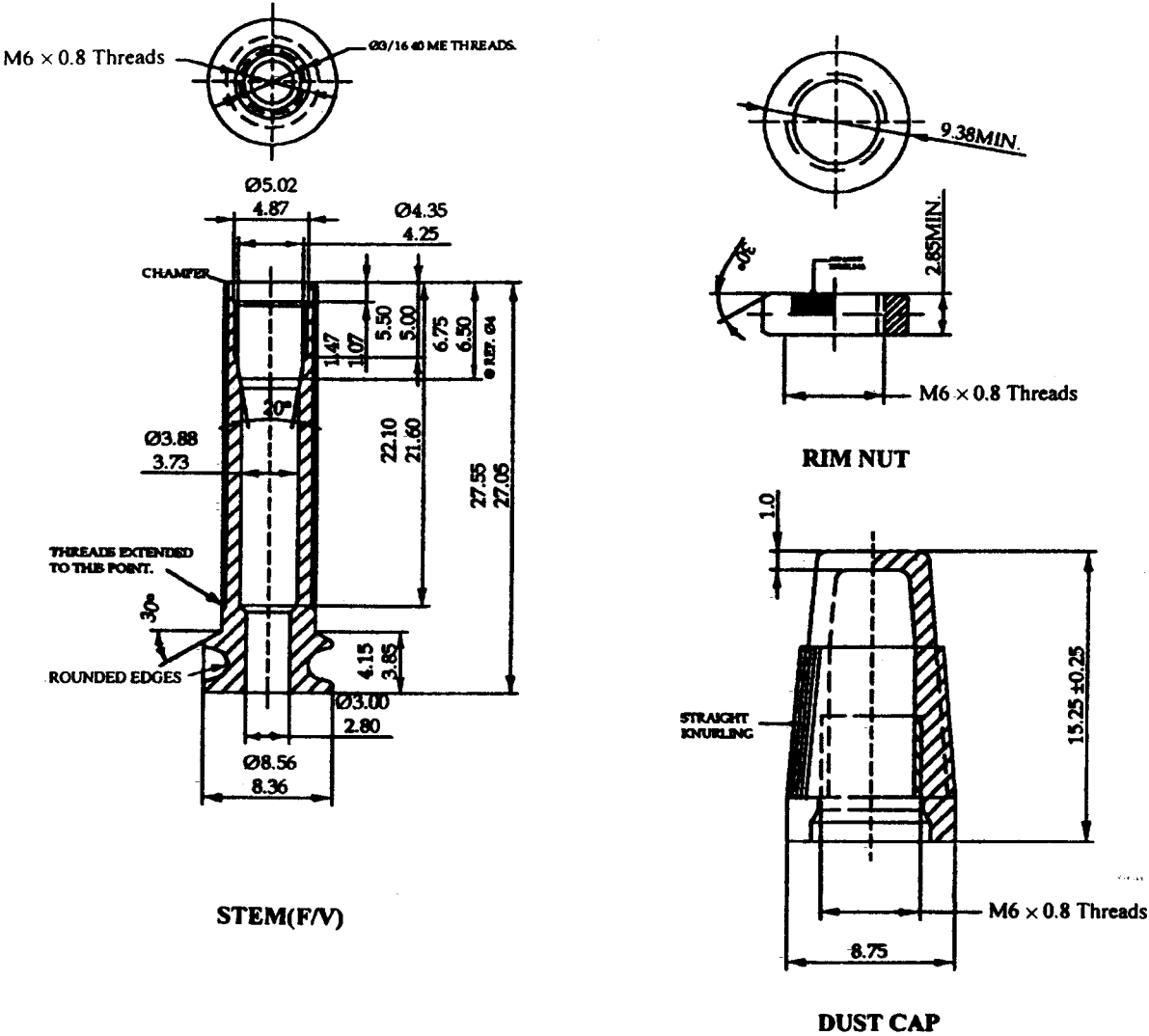
NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 5 RUBBER COVERED VALVE WITH CORE (RCC) AMERICAN VALVE (HALF THREAD-FULL RUBBERIZED)



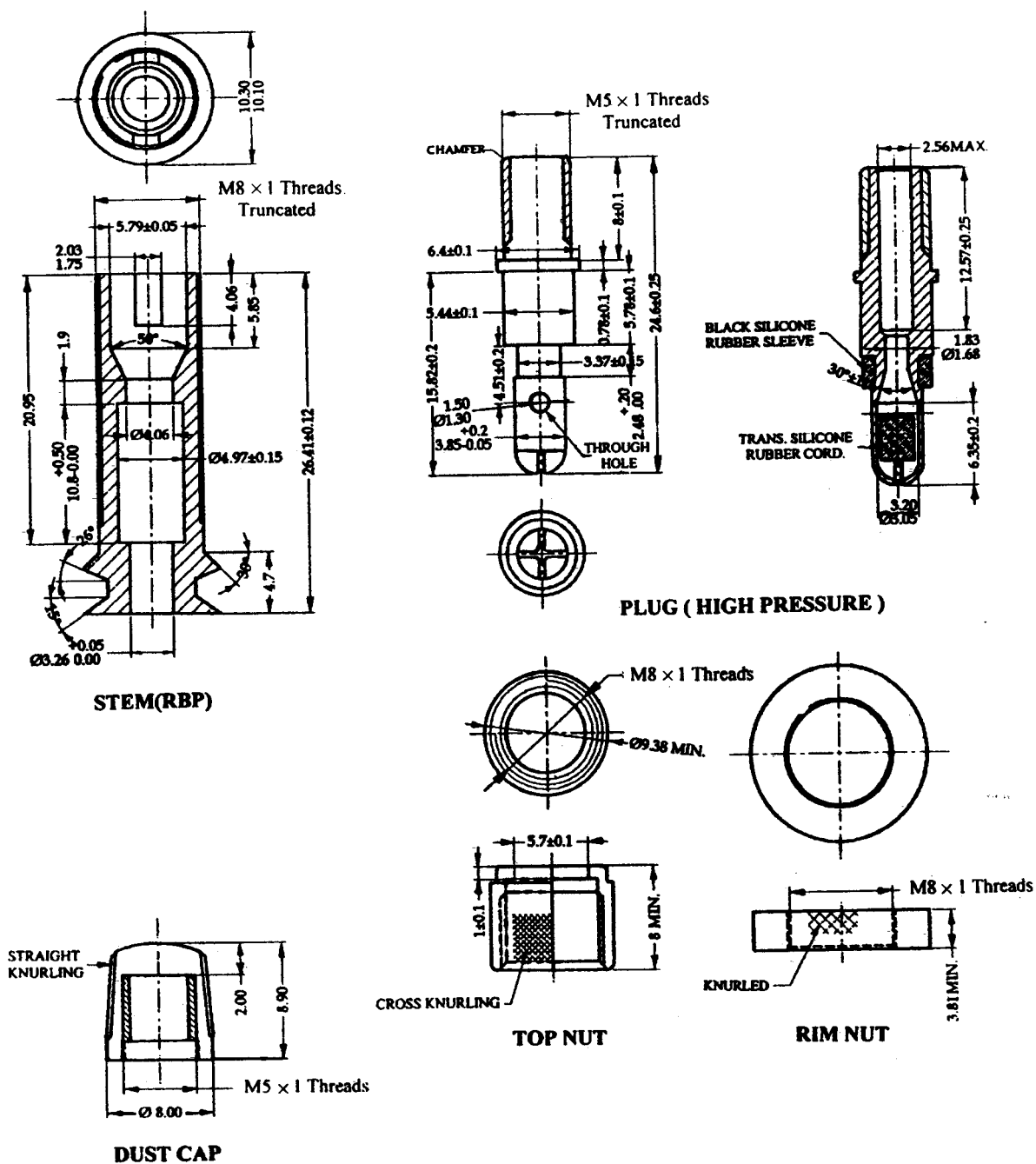
NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 6 FRENCH VALVE FOR JOINTED TUBE



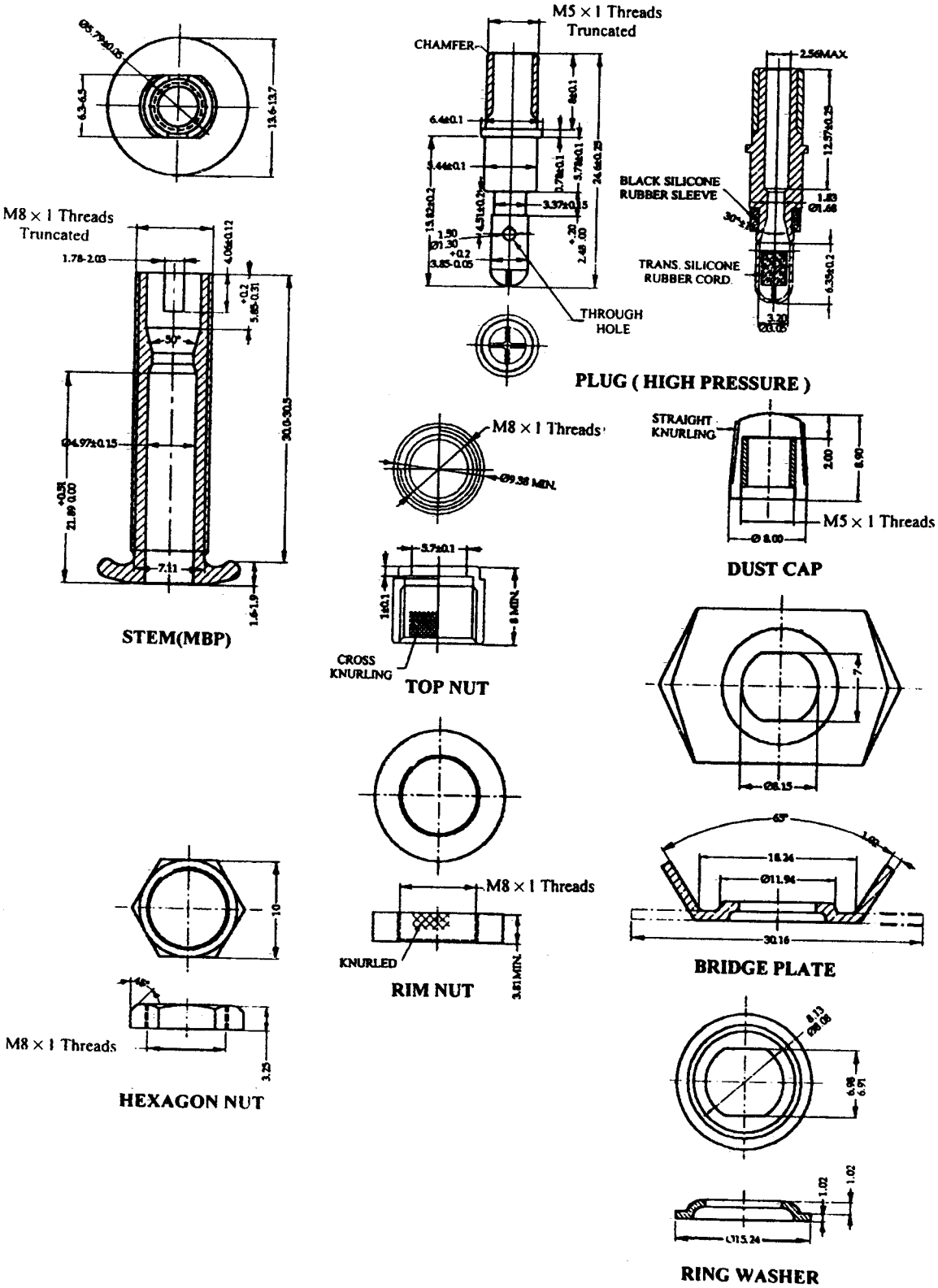
NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 7 FRENCH VALVE FOR MOULDED TUBE



NOTE — Sharp edges to be removed.
All dimensions in millimetres.

FIG. 8 GERMAN VALVE FOR MOULDED TUBE



NOTE — Sharp edges to be removed.
.All dimensions in millimetres.

FIG. 9 GERMAN VALVE FOR JOINTED TUBE

3.4 Finish

3.4.1 The components manufactured from steel, brass and zinc alloys shall be either nickel-chrome, cadmium, zinc plated or yellow passivation.

3.4.2 If nickel-chrome plated, the electroplated coatings shall conform to Service Condition No.1 with Classification Code Fe/Ni 10b Cr r of IS 1068 with the provision that s, p and d nickel may be substituted for b nickel, and mc or mp chromium may be substituted for r chromium.

3.4.3 If cadmium plated, the electroplated coatings shall conform to Service Grade No.2 (Classification No.Fe/Cd 8) of IS 1572.

3.4.4 If zinc plated, the electroplated coatings shall conform to Service Grade No.3 (Classification No.Fe/Zn 12.5) of IS 1573.

4 REQUIREMENTS FOR RUBBER VALVE-TUBING

4.1 Dimensions and Tolerances

The requirements for outside diameter, internal bore and wall thickness of rubber valve-tubing when testing according to 8.2.2 shall be as follows:

Outside diameter	: 3.0-3.5 mm
Internal bore	: 1.8-2.3 mm
Wall thickness	: 0.5-0.8 mm

4.2 Tension Set

The tension set of representative sample of the rubber valve-tubing when tested according to the method prescribed in 8.2.3 shall not be more than 15 percent.

4.3 Accelerated Ageing

Representative samples of rubber valve-tubing after ageing for 72 h at $70 \pm 1^\circ\text{C}$ shall withstand being stretched to six times of original length without breaking or showing any sign of crack (see 8.2.4).

4.4 Workmanship and Finish

The valve-tubing shall be of vulcanized rubber. The surface of the tubing shall be smooth and non-tacky and free from blisters, pitting, gritty matter and other visible defects.

4.5 Ash

Ash content of the representative sample of the rubber valve-tubing when tested according to the method prescribed in 8.2.5 shall not be more than 10 percent.

4.6 Specific Gravity

Specific gravity of the representative sample of rubber valve-tubing when tested according to the method prescribed in 8.2.6 shall lie within 1.10 ± 0.05 .

4.7 Tensile Strength and Elongation at Break

The tensile strength and elongation at break of rubber valve-tubing shall be as follows:

Tensile strength, *Min* 80 kgf/cm²

Elongation at break, *Min* 400 percent

The test shall be carried out according to the method given in 8.2.7.

4.8 Detaching Test

Detaching test of rubber valve-tubing is carried out as per method given in 8.2.8. Its value should be 2.0 kg, minimum.

4.9 Colour

Colour may be black or any other colour as agreed to between the purchaser and the supplier.

5 PACKING

The cycle tube valve and rubber valve-tubing shall be packed as agreed to between the purchaser and the supplier.

6 MARKING

6.1 Each package shall be clearly marked with nomenclature and quantity of the contents, manufacturer's names, packing date and trade-mark, if any.

6.2 BIS Certification Marking

The product may also be marked with the Standard Mark.

6.2.1 The use of Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7 SAMPLING AND CRITERIA FOR CONFORMITY

The acceptance criteria for bicycle tube valves and rubber valve-tubing shall be as agreed to between the purchaser and the supplier. A suitable sampling scheme and criteria for conformity for bicycle tube valves is given in Annex A and for rubber valve-tubing is given in Annex B.

8 TEST METHODS

8.1 For Bicycle Tube Valves

8.1.1 Valve Pull-Out Strength Test

This test is applicable only to rubber base valves. The schematic arrangements for valve pull-out test shall be as given in Fig. 10.

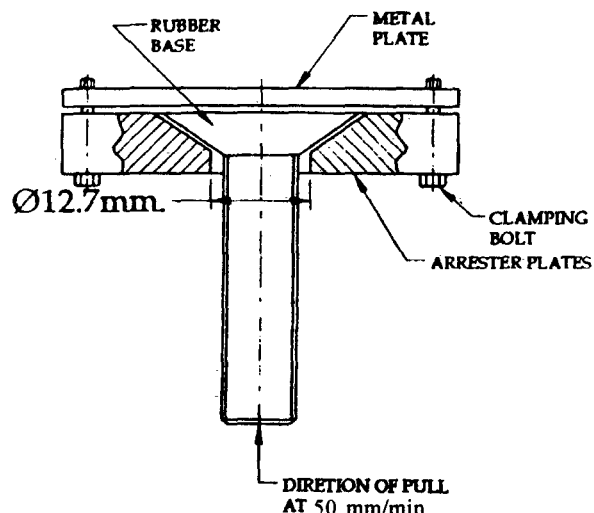


FIG. 10 SCHEMATIC ARRANGEMENT FOR VALVE
PULL-OUT TEST

The rubber base shall be held back by a profiled arrester plate with a circular aperture of 12.7 mm diameter, the rate of pull on the tensile testing machine shall be 50 mm/min. The minimum valve pull-out strength shall be 300 N.

8.2 For Rubber Valve-Tubing

8.2.1 Unless otherwise agreed to between the purchaser and the supplier, all tests shall be carried out within three months from the date of receipt of the material by the purchaser.

8.2.2 Outside Diameter, Internal Bore and Thickness

Cut across a 2 mm length at right angles to the length and 1 m away from any end of the spool or length. Determine the diameter, internal bore and thickness of the valve-tubing with the help of a travelling microscope or projector as agreed to between the purchaser and the supplier. Test at least three test pieces for different samples.

8.2.3 Tension Set

The test for tension set shall be carried out as follows.

8.2.3.1 Apparatus

Any suitable apparatus, capable of subjecting test pieces to constant elongation, may be used. Care shall be taken to ensure that the test piece does not slowly creep out of grips.

8.2.3.2 Temperature of test

The test shall be carried out at $27 \pm 2^\circ\text{C}$ (see IS 196).

8.2.3.3 Procedure

Stamp reference marks 25 mm apart on the tube. Fix the tube in the apparatus and elongate to the point of

rupture. Note the percentage of elongation at break. Stretch a fresh test piece to 75 percent of elongation at break.

8.2.3.4 Results

Express the change in length as percentage of the initial length between the reference marks.

8.2.4 Accelerated Ageing

Subject at least three pieces of rubber valve-tubing to ageing in an air-oven at a temperature of $70 \pm 1^\circ\text{C}$ for 72 h in accordance with the method prescribed in IS 3400 (Part 4). Remove the test pieces from the oven and maintain at a temperature of $27 \pm 2^\circ\text{C}$ for a minimum period of 24 h before subjecting them to the stretching. Stretch the aged valve-tubing to 6 times their original lengths. Examine the rubber valve-tubing for any rupture or crack.

8.2.5 Ash

Cut small pieces of valve-tubing and weigh approx. 3-4 g into a previously ignited, cooled and tared silica dish. Place the crucible on a hot plate. Control the temperature of hot plate so that the sample burns slowly but completely. After the sample has burnt off completely, ignite in a muffle furnace at about $850 \pm 50^\circ\text{C}$. Cool in desiccators and weigh. Repeat the ignition until the mass is constant.

8.2.5.1 Calculation

Calculate the ash content, in percent:

$$\text{Ash} = R/M \times 100$$

where

R = residue after ignition, in g; and

M = sample taken for test, in g.

8.2.6 Specific Gravity

Suspend the test piece from the hook on the balance using the suitable length of filament so that the bottom of the test piece is about 25 mm above straddle. Weight of the test piece should be minimum 2 g. The filament shall be made from a material which is insoluble in kerosene and which does not absorb a significant amount of liquid.

Weigh the test piece to nearest milligram, in air. Repeat the weighing with the test piece immersed in kerosene oil contained in a beaker placed on the straddle. Determine the mass to the nearest milligram, watching the pointer for a few seconds to make sure that it does not drift gradually as a result of convection currents.

8.2.6.1 Calculation

$$\text{Specific gravity} = \frac{(W_2 - W_1)}{(W_2 - W_1) - (W_3 - W_1)} \times \text{Density of kerosene}$$

where

W_1 = weight of the filament, in g;

W_2 = weight of test piece in air + weight of filament; and

W_3 = weight of test piece in kerosene + weight of filament.

8.2.7 Tensile Strength and Elongation at Break

Measure the dimensions (OD, ID) of test piece according to test methods given in 8.2.2. Stamp benchmarks 25 mm apart on the test piece. Fix the test piece into the grips of the tensile testing machine, taking care to adjust it symmetrically so that the tension will be distributed uniformly over the cross-section. Then start the machine and measure the distance between the centres of the benchmarks as required to the nearest 1 mm taking care to avoid parallax, until the test piece breaks, note the load on the test piece.

8.2.7.1 Calculations

$$\text{Tensile strength} = F/A \text{ kgf/cm}^2$$

where

F = breaking load, in kgf.

A = cross-section area of the tubing test piece, in cm^2 ; and that is, $\pi/4 [(OD)^2 - (ID)^2]$

$$\text{Elongation} = \frac{(L - L_0)}{L_0} \times 100 \text{ percent}$$

where

L_0 = initial length between benchmarks, in mm; and

L = length between benchmarks at break, in mm.

8.2.8 Detaching Test

Take a test piece measuring approximately 55 mm in length from the remainder of test piece. Insert the pneumatic valve of tube fully into the test piece having been prepared as above, as shown in Fig. 11. Grip the Part A with upper clamp of the tester and the Part B with lower clamp and pull the test piece. At this time, measure the load at the time when the test piece detaches or comes to breakage.

Present the average obtained from three or more test pieces as the test result.

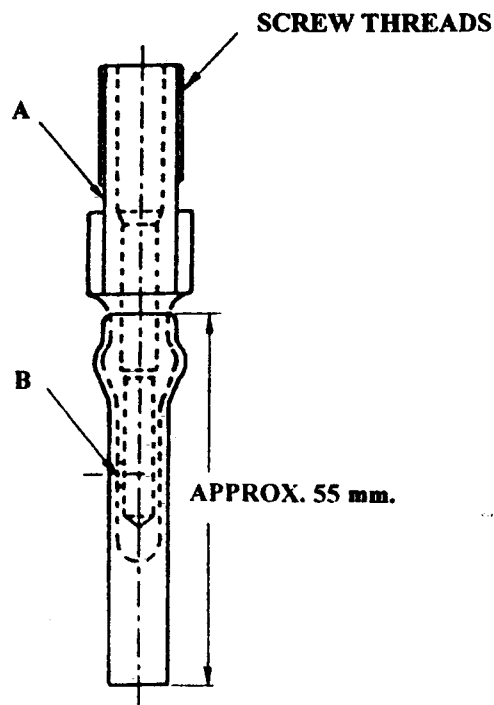


FIG. 11 DETACHING TEST

ANNEX A

(Clause 7)

SAMPLING OF BICYCLE TUBE VALVES AND CONFORMITY CRITERIA

A-1 SAMPLING

The object of testing by the purchaser is to ensure conformity of the product of the specification requirements, whereas testing by the manufacturer during production is meant to ensure uniformity by reducing fluctuations in quality to the minimum. When adequate inspection is carried out by the manufacturer, the records of test results for various characteristics will be readily available for scrutiny by the purchaser. If the purchaser is satisfied, he may test only a small number of samples as recheck. One such scheme for use by the purchaser is given below which assumes that manufacturer had been exercising proper process control and had been inspecting the entire length of the valve-tubing before spooling.

A-2 SCALE OF SAMPLING

A-2.1 Lot

In any consignment, all the bicycle tube valves of the same type with components manufactured from one or different set of material shall be grouped together to constitute a lot.

A-2.2 For ascertaining the conformity of the lot to the requirements of the specification, tests shall be carried out for each lot separately. The number of valves to be selected randomly for this purpose shall be in accordance with col 3 and 4 of Table 1.

A-3 NUMBER OF TESTS AND CONFORMITY CRITERIA

A-3.1 For Dimensional Characteristics

Each of the valves selected according to col 3 of

Table 1 shall be examined for the various dimensional requirements of the components given in the standard. A component failing in one or more of the dimensional requirements shall be considered as defective.

A-3.1.1 The lot shall be declared as conforming to the dimensional and processing requirements of the standard, if:

- a) the number of defective valves found in dimensional analysis is less than or equal to the permissible number of defectives given in col 5 of Table 1; and
- b) the number of defective valves found for processing in production is less than or equal to the corresponding permissible number given in col 6 of Table 1.

A-3.2 For Chemical and Physical Requirements

In case, the quality of the lot with regard to the chemical and physical requirements is found satisfactory as evidenced by suitable test certificate accompanying the lot, no further tests need be done. However, when no such test certificate is supplied along with the lot, a sample of bicycle tube valves shall be drawn at random in accordance with col 2 and 3 of Table 2 and tested for the requirements of dimensions (see 3.2) and valve pull-out test (see 8.1.1) where applicable. If no defectives are found in the sample, then the lot shall be deemed as conforming to the chemical and physical requirements of the valves.

Table 1 Scale of Sampling and Permissible Number of Defectives

Sl No.	Number of Bicycle Tube Valves in the Lot	Number of Valves to be Selected		Permissible Number of Defectives	
		Dimensional Analysis	Processing in Production	Dimensional Analysis	Processing in Production
(1)	(2)	(3)	(4)	(5)	(6)
i)	Up to 200 000	5	2 500	0	25
ii)	Up to 500 000	10	2 500	0	25

Table 2 Scale of Sampling for Physical and Chemical Characteristics

Sl No.	Lot Size	Sample Size for Physical Characteristics	Sample Size for Chemical Characteristics
(1)	(2)	(3)	(4)
i)	Up to 200 000	2 500	5
ii)	Up to 500 000	2 500	10

ANNEX B

(Clause 7)

SAMPLING AND CRITERIA FOR CONFORMITY FOR RUBBER VALVE-TUBING**B-1 SCALE OF SAMPLING****B-1.1 Lot**

In any consignment all the spools of valve-tubing produced under essentially similar conditions of manufacture (such as those from a single batch of rubber compound, a single vulcanizing process, etc) shall be grouped together to constitute a lot.

B-1.2 Tests for judging the conformity of material to the requirements of this specification shall be carried out for each lot separately. The number of spools to be selected for this purpose shall be in accordance with col 2 and 3 of Table 3.

Table 3 Scale of Sampling

Sl No.	Number of Spools in the Lot	Number of Spools to be Selected
(1)	(2)	(3)
i)	Up to 10	2
ii)	11 to 25	3
iii)	26 to 50	4
iv)	51 to 100	5
v)	101 and above	6

B-1.3 The number of spools required to be selected

shall be taken at random from the spools in the lot. For this purpose a suitable number of crates or boxes in the lot shall be chosen first. From each an equal number of spools shall be selected at random so as to make up the desired number of spools as indicated in col 3 of Table 3.

B-2 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

B-2.1 The entire length of valve-tubing in each of the selected spools shall be examined for workmanship and finish as described in 3.4. The spool shall be passed for further testing only, if it had been found satisfactory in workmanship and finish throughout its length.

B-2.2 If a spool has been found satisfactory in **B-2.1** in respect of workmanship and finish, it shall be tested for all the other requirements of this specification in accordance with the methods of test laid down for the purpose. A spool shall be considered as satisfactory in respect of the requirements tested, if it has passed each of the tests carried out on it.

B-2.3 The lot shall be declared as conformed to the requirements of this specification, if all the selected spools have been satisfactory in **B-2.1** as well as in **B-2.2**.

ANNEX C

(Foreword)

COMMITTEE COMPOSITION

Bicycles Sectional Committee, TED 16

<i>Organization</i>	<i>Representative(s)</i>
Hero Cycles Ltd, Ludhiana	SHRI S. K. RAI (<i>Chairman</i>) SHRI BRIJMOHAN LAL (<i>Alternate</i>)
Atlas Cycles (Haryana) Limited, Sonapat	SHRI VIKRAM KAPUR SHRI ASHOK KUMAR (<i>Alternate</i>)
Avery Cycle Industries Ltd (Avon Group), Ludhiana	SHRI HARCHARAN SINGH SHRI ASHWANI KUMAR BHAKHAN (<i>Alternate</i>)
Avon Cycles Ltd, Ludhiana	SHRI ONKAR SINGH PAHWA SHRI RISHI PAHWA (<i>Alternate</i>)
Bhogal Sons (Regd), Ludhiana	SHRI HARINDER P. BHOGAL SHRI NAGINDER SINGH BHOGAL (<i>Alternate</i>)
Bicycle & Sewing Machines (R & D Centre), Ludhiana	GENERAL MANAGER SHRI SHAMSHER SINGH (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
Controllorate of Quality Assurance (Vehicles), Ahmednagar	JOINT CONTROLLER DEPUTY CONTROLLER (<i>Alternate</i>)
Deptt of Industrial Policy and Promotion, New Delhi	SHRI M. M. ALI KHAN SHRI B. C. NAYAK (<i>Alternate</i>)
Dewan Rubber Industries Ltd, Meerut	SHRI VIVEK DEWAN SHRI C. K. SAXENA (<i>Alternate</i>)
Director of Industries, Ludhiana, Punjab	GENERAL MANAGER SENIOR TECHNICAL OFFICER (<i>Alternate</i>)
Directorate General of Supplies and Disposals, New Delhi	SHRI S. M. MUNJAL SHRI W. M. WANJARI (<i>Alternate</i>)
Directorate of Industries, Govt of Haryana, Chandigarh	SHRI R.N. GOYAL SHRI SUNIL CHOPRA (<i>Alternate</i>)
Eastman Industries, Ludhiana	SHRI JAGDEEP SINGH
Govind Rubber Ltd, Distt Ludhiana	SHRI VINOD PODDAR SHRI S. P. SUKHRANI (<i>Alternate</i>)
Hamilton Industries Pvt Ltd, Ambarnath	SHRI M. R. PRAJAPATI SHRI P. R. RAVIKUMAR (<i>Alternate</i>)
Hartex Rubber Ltd, Hyderabad	SHRI K. SUBRAMANIAN SHRI RAVINDRA PANT (<i>Alternate</i>)
J. K. Cycles, Ludhiana	SHRI JOGINDER KUMAR
Kular Cycle Industries, Ludhiana	SHRI AJIT SINGH SHRI DARSHAN SINGH (<i>Alternate</i>)
Metro Tyres Limited, Ludhiana	SHRI L. K. MATHUR SHRI SANJEEV SOOD (<i>Alternate</i>)
Nova Bicycle Industries, Ludhiana	SHRI HARMINDER SINGH PAHWA SHRI ROHIT PAHWA (<i>Alternate</i>)
Office of the Development Commissioner (SSI), New Delhi	SHRI R. L. GARG SHRI M. B. JAYA KUMAR (<i>Alternate</i>)
Ralson (India) Limited, Ludhiana	SHRI SANJEEV PAHWA SHRI T. R. KUKREJA (<i>Alternate</i>)
Sadem Industries, Ludhiana	SHRI SATISH KUMAR DHANDA
Seth Industrial Corporation, Ludhiana	SHRI B. K. SETH
T. I. Cycles of India, Chennai	SHRI S. SADISH KUMAR SHRI V. DURAIRAJ (<i>Alternate</i>)
United Cycle and Parts Manufacturers Association, Ludhiana	PRESIDENT SECRETARY (<i>Alternate</i>)
BIS Directorate General	SHRI S. K. BHATIA, Director and Head (TED) [Representing Director General (<i>Ex-officio Member</i>)]

Member Secretary

SHRI J. M. KHANNA
Joint Director (TED), BIS

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110 002	{ 2323 7617 2323 3841
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022	{ 260 3843 260 9285
Southern : C. I. T. Campus, IV Cross Road, CHENNAI 600 113	{ 2254 1216, 2254 1442 2254 2519, 2254 2315
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400 093	{ 2832 9295, 2832 7858 2832 7891, 2832 7892

Branches : AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE.
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